

valuable material is usually missing from the ordinary regional "floras", which are written in terse telegraphic style in order to serve the false god known as Brevity.

The present volume was made possible through a grant from the National Science Foundation, which is to be commended for its support of this important work on a floral assemblage so unique that it is 98 percent endemic. As the author so aptly comments "this work shall leave a fair record for generations yet unborn what the remarkable native vegetation.....was like before it was largely exterminated by feral goats and axis deer; introduced weeds and exotic forest trees; and by the practical, wholesale bulldozing and cultivating of vast areas for the production of sugarcane, pineapple and macadamia. Future generations may well shed a tear and be astonished how quickly and thoroughly their forebears wrecked the native vegetation of Hawaii Nei, the most unique natural Botanical Garden on the face of the Earth."

NOTES ON NEW AND NOTEWORTHY PLANTS. XXII

Harold N. Moldenke

ABUTA ECUADORENSIS Moldenke, sp. nov.

Frutex scandens gracilis; ramis gracilibus densissime brunneo-villosis; foliis membranaceis ovato-oblongis 5-plexinerviis acuminatis integris, ad basin acutis vel rotundatis usque ad subtruncatis, supra lamina glabris venis majoribus plusminusve pubescentibus, subtus lamina parce pilosis, venis majoribus minoribusque dense pubescentibus; fructis oblongis breviter pubescentibus.

Woody vine, to 80 meters long, forming a network in high treetops; trunk up to 15 x 9 cm. in diameter at a 1 meter level, oval in cross-section; stems very slender, very densely brown-villous; petioles slender, 2-7 cm. long, very densely brown-villous, somewhat swollen and often genuiflexuous at the apex; leaf-blades membranous or thin-chartaceous, shiny on both surfaces, brownish in drying, uniformly colored on both surfaces, 6-15.5 cm. long, 4-9 cm. wide, acuminate at the apex, entire, varying from acute or rounded to subtruncate at the base, distinctly 5-plexinerved, the primary veins lightly arcuate-ascending, similar to the secondaries, not anastomosing at the margins, the secondaries 2 or rarely 3 pairs, more plainly arcuate especially at the very margins, but not anastomosing there, the tertiaries very numerous, issuing at right angles to the primaries and secondaries and connecting them, the lamina mostly glabrous above and very lightly scattered-pilose beneath, the primaries and secondaries mostly rather densely pubescent on both surfaces, the tertiaries glabrous above but pubescent beneath; flowers not known; fruit obliquely

oblong or oval, green, 2.4--2.7 cm. long, 1.4--1.5 cm. wide, uniformly short-pubescent or puberulent throughout.

The type of this species was collected by Charles C. Fuller (no. 98) in a high dense jungle on the Upper Bobonaza, at an altitude of 1900 feet, Ecuador, on September 29, 1953, and is deposited in the Britton Herbarium at the New York Botanical Garden. The collector records the vernacular names "yana caspi" and "apa lamas angu" (Quichua) and states that the plant is claimed by the natives not to be poisonous.

AEGIPHILA VENEZUELENSIS var. *SERRATA* Moldenke, var. nov.

Haec varietas a forma speciei typica recedit foliis usque ad 29 cm. longis et 8.5 cm. latis apicem versus serrulatis.

This variety differs from the typical form of the species in having its leaves to 29 cm. long and 8.5 cm. wide, serrulate along the margins toward the base.

The type of the variety was collected by Bassett Maguire, John J. Wurdack, and George S. Bunting (no. 36952) in the uppermost slope forest of Camp 4, at an elevation of 1500--1700 meters, Cerro de la Neblina, Río Yatua, Amazonas, Venezuela, on December 27, 1953, and is deposited in the Britton Herbarium at the New York Botanical Garden.

ALOYSIA AYACUCHENSIS Moldenke, sp. nov.

Frutex; ramis gracilibus tetragonis glabratibus costatis brachiatis; sarmentis numerosis valde abbreviatis floriferis; foliis numerosis confertis oppositis oblanceolatis parvis supra pustulosis, subtus resinoso-punctatis.

Shrub; branches slender and wiry, rather acutely tetragonal, often costate, glabrous or subglabrate, twiggy; twigs floriferous, short, opposite, usually 3--8 cm. long; principal internodes on branches 1.5--4 cm. long, on twigs 3--6 mm. long; larger nodes annulate; leaf-scars on twigs prominent, corky, divergent; leaves numerous, crowded on the twigs, thin-chartaceous, bright-green above, lighter beneath, narrowly oblanceolate, 6--10 mm. long, 1--3 mm. wide, rounded at the apex, entire and often somewhat revolute along the margins, attenuate-acute at the base, glabrous and pustulate above, resinous-punctate beneath, very obscurely strigillose on both surfaces when young; midrib filiform, plane above and beneath; secondaries 2 pairs, ascending, very short, indiscernible above, plane beneath; veinlet reticulation indiscernible on both surfaces; inflorescence terminating the short twigs, 1--2 cm. long, dense-flowered; rachis very slender, continuous with the twig, puberulent, the sympodia very much abbreviated; calyx about 2 mm. long, white-puberulent; corolla-tube about 4 mm. long, very densely white-pubescent above the calyx, the limb about 3 mm. wide, white-pubescent on the outside, glabrous within.

The type of this distinctive species was collected by Padre Loy at 2407 meters altitude in Ayacucho, Peru, and is no. 4187 in the herbarium of Padre J. Soukup, deposited in

the Britton Herbarium at the New York Botanical Garden.

CLERODENDRUM SERRATUM var. *PUBESCENS* Moldenke, var. nov.

Haec varietas a forma speciei typica recedit ramis ramulisque inflorescentiisque densiore incano- vel griseo-tomentosis, foliorum laminis supra dense pilosis subtus densissime albo-tomentosis.

This variety differs from the typical form of the species in having its branches, branchlets, and inflorescences more densely incanous- or griseous-tomentose and the leaf-blades densely pilose above and very densely white-tomentose beneath.

The type of the variety was collected by S. K. Wagh (no. 2592) at Sunkarimeta, Vizag District, Andhra State, India, on May 11, 1956, and is deposited in the Blatter Herbarium at St. Xavier's College, Bombay. The collector states that the plant grows to a height of 20 feet, has a woody stem to 2 inches in diameter or more, and has flowers that are blue to white. He says that it is "not so common".

CLERODENDRUM VILLOSUM var. *MACROCALYX* Moldenke, var. nov.

Haec varietas a forma typica speciei recedit calyce 1.8--2.2 cm. longo, lobis ovatis 1.2--1.6 cm. longis ad apicem longe attenuatis.

This variety differs from the typical form of the species in having the calyx during anthesis very much larger, 1.8--2.2 cm. long, the lobes ovate, 1.2--1.6 cm. long, long-attenuate at the apex, densely glandular-dotted. The leaf-blades are remotely denticulate along the margins.

The type of the variety was collected by P. V. Bole (no. 1457) at Daudeli, North Kanara, Bombay, India, on December 25, 1955, and is deposited in the Blatter Herbarium at St. Xavier's College, Bombay. The collector notes that it is a shrub 3--4 feet tall, the corollas white, and the fruiting-calyx reddish. He says that it is frequent along railway lines.

GMEIINA BRASSII Moldenke, sp. nov.

Arbor; foliis subcoriaceis late ellipticis vel subovatis breviter obtuseque acuminatis vel obtusis integerrimis, ad basin rotundatis vel subcordatis et biglandulosis utrinque pernitidisque; inflorescentiis terminalibus elongatis angustissimis racemosis vel pseudo-spicatis dense multifloris, floribus breviter pedicellatis; bracteis numerosissimis herbaceis perspicue 1--3-glandulosis; calycibus plerumque glanduliferis.

Tall tree, to 30 m. tall, the unbuttressed bole to 13 m. high, 25 cm. in diameter at breast height; bark about 6 mm. thick, the outer bark pale-brown, with shallow longitudinal fissures and dotted with coarse pustular lenticels, the inner bark cream-colored, tinged with green on the back, with yellow and white alternating layers within; sapwood about 5 cm. deep, pale straw-colored; heartwood very pale-brown; branchlets obtusely tetragonal, brunnescent, very minutely puberulent or

glabrous, with scattered, light-colored, rather prominent lenticels; nodes not annulate; principal internodes 3--4 cm. long; leaves decussate-opposite; petioles rather stout, 2--5 cm. long, very minutely and obscurely appressed-puberulent or glabrous, flattened above, brunnescent; leaf-blades thin-coriaceous, bright- or dark-green above, lighter beneath, broadly elliptic or almost ovate, 8--25 cm. long, 4--16 cm. wide, very shortly acuminate at the apex with a broadly rounded acumen, or merely obtuse, entire, broadly rounded or subcordate at the base and marked there with 2 very prominent swellings above due to groups of close flat glands beneath; midrib flat above, prominent beneath; secondaries slender, 6 or 7 per side, ascending, slightly arcuate, anastomosing in many loops near the margins, flat above, prominent beneath; veinlet reticulation very abundant, flat and not conspicuous above, beautifully prominulous to the finest details beneath; inflorescence terminal, to 25 or more cm. long, 2--4 cm. wide, erect, racemose or pseudo-spicate, densely many-flowered, paniculate-branched at and toward the base with very short erect branches, the upper flowers arranged in subsessile cymules, densely short-puberulent with brownish hair throughout, very conspicuously bracteolate and glanduliferous; peduncles 3--4.5 cm. long, similar to the upper portion of the branchlets in all respects; sympodia 1--2.7 cm. long, more conspicuous toward the apex of the inflorescence; bractlets very numerous and conspicuous, elliptic or lanceolate, 5--17 mm. long, 1.5--8 mm. wide, tapering to the apex or caudate-acuminate, sessile, tapering to the base or the largest ones broadly rounded at the base, densely short-puberulent on both surfaces, usually conspicuously glanduliferous with 1--3 large, flat, black glands on the lower surface; pedicels very short, puberulent; calyx densely puberulent, usually also black-glanduliferous; corolla white or pinkish, to 2 cm. long, densely appressed-puberulent on the outside, the lower lip faint-blue with 2 yellow markings; fruit drupaceous, 10--14 mm. long and wide, blue-tipped, enclosed at the base by the fruiting-calyx, black when ripe.

The type of this species was collected by Leonard John Brass (no. 21915) -- in whose honor it is named -- in the rainforest on limestone, altitude 30 meters, at Dabora, on the Cape Vogel Peninsula, Milne Bay District, Papua, New Guinea, on April 10, 1953, and is deposited in the herbarium of the Department of Forests at Lae, New Guinea. A vernacular name is "alongaya", and its wood is used for carving drums.

GMELINA LEPIDOTA var. *LANCEOLATA* Moldenke, var. nov.

Haec varietas a forma speciei typica recedit foliorum laminae distincte lanceolatis longioribusque.

This variety differs from the typical form of the species in having its leaf-blades quite distinctly lanceolate and more elongated, 12--19 cm. long, 3--6 cm. wide, acuminate at the apex, and abruptly acute at the base.

The type of the variety was collected by K. Mair (no. 1894) in a rainforest on deep volcanic soil, altitude 1500 feet, at

Nantambu, Open Bay, New Britain, in June, 1945, and is deposited in the herbarium of the Department of Forests at Lae, New Guinea. It is said by the collector to be a tree 65 feet tall, the bole 45 feet high, buttressed to 4 feet, with a diameter of 2 feet at breast height, and a leafy crown. The outer bark is dark gray-brown, with closely spaced, irregular, longitudinal fissures, scaling off in $1/2 \times 1/4$ inch plates, with round black lenticellar pustules unevenly distributed, about $1/8$ inch thick. The under bark is light creamy-yellow, the inner bark creamy-yellow with light-brown dappling, $3/8$ inch thick. The sapwood is indefinite; the wood light straw-colored, with a greasy feel. He reports that the leaves are to 22.5 cm. (9 inches) long, simple, decussate, entire, tapering to the apex, dark-green, glabrous, and with prominent creamy-yellow veins above, dull gray-brown with stellate hairs and prominently raised veins beneath, the petioles 2.5—3 cm. long. The peduncles are tetragonal, the inflorescence terminal and axillary in the uppermost leaves, paniculate. The flowers are mauve, labiate, about 13 mm. long, in sessile opposite cymules, subtended by herbaceous bractlets, the corolla with dark-purple hairs on the outside.

GMEELINA SMITHII Moldenke, sp. nov.

Arbor; nodis distincte annulatis; foliis firme chartaceis vel subcoriaceis ellipticis utrinque glabris; inflorescentiis terminalibus late paniculatis multifloris, ramis racemosis vel subspicatis; floribus breviter pedicellatis.

Tall tree, to 90 m. tall, the bole 30 m. high, hollow at the base, narrowly buttressed to 2.5 m., about 1 m. in diameter at breast height; bark 1.5—2 cm. thick, the outer bark pale blue-gray, with scattered cracks and with large flattened pustular lenticels, the inner bark yellow-brown, occasionally streaked with green on the back, brownish within, paler inwards, with a slight odor; branchlets rather stout, obtusely tetragonal, subglabrous, brunnescent; nodes plainly annulate; principal internodes 1.5—2 cm. long; leaves numerous, decussate-opposite, firmly chartaceous or subcoriaceous, but usually irregularly wrinkled in drying, green above, "brown beneath", glabrous on both surfaces, 7—15 or more cm. long, 4—10 or more cm. wide, rounded or acute at the apex, entire, rounded or acute at the base; midrib flat above, prominent beneath; secondaries slender, 6 or 7 per side, ascending, not much arcuate, joined in many loops near the margins, obscure above, prominulous beneath; vein and veinlet reticulation sparse, mostly indiscernible above and obscure beneath; inflorescence terminal, widely paniculate, to 30 cm. long and wide, the branches ascending or widely divaricate, densely many-flowered, densely brown-pubescent on the younger parts, glabrescent on the older parts and in age; bractlets numerous, lanceolate or narrow-elliptic, about 5 mm. long and 2—3 mm. wide, narrowed at both ends, densely puberulent on both surfaces, mostly hiding the buds and calyxes, sometimes blackish, caducous; pedicels very slender, 3—4 mm. long, or occasion-

ally the basal ones to 10 mm. long, densely brown-pubescent; buds sometimes blackish; calyx campanulate, about 4 mm. long and wide, densely pubescent throughout, the rim 4-toothed; corolla pale-blue, the lower lobe with 2 yellow spots drawn out into lines inwards; fruit green, turning reddish.

The type of this species was collected by L. S. Smith (no. 1064) -- in whose honor it is named -- at Aiyura, at an altitude of 6000 feet, in the Central Highlands of Northeastern New Guinea, in October, 1944 (on the type label the date is given as "1/12/44", apparently in error), and is deposited in the herbarium of the Department of Forests at Lae, New Guinea. Vernacular names recorded are "kaboya" and "yabeina".

LANTANA BRASILIENSIS var. *SEPTENTRIONALIS* Moldenke, var. nov.

Haec varietas a forma typica speciei recedit foliis minoribus ellipticis 3.5--7.5 cm. longis 1.5--3.5 cm. latis.

This variety differs from the typical form of the species in having its leaves much smaller, 3.5--7.5 cm. long and 1.5--3.5 cm. wide.

The type of the variety was collected by Jaime Coêlho de Moraes (no. 1093) in high and somewhat wet places of the mata at Nazaré da Mata, Pernambuco, Brazil, and is deposited in the Britton Herbarium at the New York Botanical Garden.

LANTANA TRIFOLIA f. *ALBIFLORA* Moldenke, f. nov.

Haec forma a forma typica speciei corollis albis recedit.

This form differs from the typical form of the species in having white corollas.

The type of the form was collected by my good friend and colleague, Dr. Erik Asplund (no. 15821) in a thicket, at an altitude of about 1150 meters, at Zaruma, El Oro, Ecuador, on March 19, 1955, and is deposited in the herbarium of the Naturohistoriska Riksmuseet at Stockholm.

LIPPIA MACEDOII Moldenke, sp. nov.

Suffrutex; caulibus ramisque gracilibus obtuse tetragonis sulcatis plerumque acute angulatis dense albido-strigosis; foliis brevissime petiolatis vel subsessilibus; laminis foliorum firmis vel subcoriaceis ellipticis acutis serratis, ad basin rotundatis vel subacutis, bullatis supra dense strigosis, subtus dense strigosis.

A subshrub; stems and branches slender, obtusely tetragonal and sulcate or sometimes more acutely angled, densely canescent-strigose, the hairs becoming brownish in age; nodes annulate; principal internodes 1.2--6.5 cm. long; leaves decussate-opposite, very short-petiolate or subsessile; petioles when present rather stoutish, to 2 mm. long, densely canescent strigose; leaf-blades firm-textured or even subcoriaceous, grayish-green on both surfaces but lighter beneath, elliptic, 2.7--5 cm. long, 1--2 cm. wide, acute at the apex, regularly serrate with rather appressed teeth from the apex to well below the middle, rounded or acutish at the base, bullate and densely strigose with bulbous-based hairs above, the hairs

antrorsely confluent on each elevated portion between the deeply sunken veins, also densely strigose beneath with canescent hairs; midrib and the 5 pairs of slender secondaries deeply impressed above and very sharply prominent beneath, the secondaries ascending and slightly arcuate; tertiaries very numerous, slender, rather straight and subparallel, issuing at almost right angles to the secondaries, impressed above and very slightly prominulous beneath; inflorescence axillary, capitate or subspicate, solitary in each of the upper axils; peduncles slender, rather sharply tetragonal, densely white-strigose with antrorse hairs, 1.5-3.5 cm. long, ascending, stiff; heads ovoid, 6-15 mm. long, 9-11 mm. wide; bracts ovate, the lowest ones to 6 mm. long and 3 mm. wide, acuminate at the apex, rather densely canescent-strigose with antrorse hairs, the peripheral ones long, stiffer, and bulbous-based; corolla rose, about 6 mm. long, the tube densely short-pubescent outside, the limb about 2.5 mm. wide.

The type of this distinctive species was collected by Amaro Macedo (no. 4423) -- in whose honor it is named -- in a field at Jacobá, municipality of Niquelandia, Goyaz, Brazil, on February 24, 1956, and is deposited in the United States National Herbarium at Washington.

STACHYTARPHETA MONACHINOI Moldenke, sp. nov.

Planta perennis subarbuscula caespitosa; caulibus simplicibus puberulis brunnescentibus; foliis numerosis ternatis oblongis integris acutis glabris brunnescentibus; inflorescentiis terminalibus multifloris minute puberulis brunnescentibus.

Subshrub, to 40 cm. tall, caespitose; stems apparently simple, obtusely tetragonal, lightly puberulent, brunnescent; principal internodes 1-2.5 cm. long; nodes not annulate; leaves numerous, ternate or sometimes scattered, ascending, longer than the internodes, sessile, chartaceous, oblong, 2-4 cm. long, 4-8 mm. wide, acute at the apex, entire, glabrous, brunnescent in drying; midrib very slender, slightly prominulent only beneath; secondaries and veinlets not distinguishable on either surface; inflorescence terminal, apparently solitary and many-flowered, apparently 10 or more cm. long, sometimes complanate-fasciated; rachis minutely puberulent, more of less costate; bracts lanceolate, about 6 mm. long and 2 mm. wide, acuminate at the apex, obscurely ciliolate; calyx tubular, about 15 mm. long and 2 mm. wide, very obscurely puberulent or subglabrate, 5-ribbed, the marginal teeth subulate and about 4 mm. long, often twisted; corolla hypocrateriform, rose-violet, its tube about 2 cm. long, glabrous, the limb about 1 cm. wide.

The type of this species was collected by Geraldo Mendes Magalhães (no. 6024) in dry flat ground covered with grasses and shrubs on a fragmented quartz campo on the high plateau of Serra do Cobral, altitude about 1000 meters, municipality of Buenópolis, Minas Gerais, Brazil, on October 13, 1953, and is no. 48281 in the herbarium of the Jardim Botânico de Belo Horizonte, deposited in my personal herbarium at Yonkers, New York. It is named in honor of my good friend and colleague,

Joseph Vincent Monachino (1911--), who has done considerable collecting of plants in various portions of the United States and Venezuela and has published many critical notes on various plant groups.

SYNGONANTHUS CAULESCENS var. *PROLIFERUS* Moldenke, var. nov.

Haec varietas a forma typica speciei recedit bracteolis interioribus plerumque elongatis foliaceis viridibus glabris usque ad 7 mm. longis 1 mm. latis argute attenuatis saepe scarioso-marginatis.

This variety differs from the typical form of the species in having many or most of the inner bractlets enlarged, foliaceous, green, to 7 mm. long and 1 mm. wide, glabrous, sharply attenuate at the apex, often more or less scarious-margined.

The type of the variety was collected by my good friends, Lyman Bradford Smith and Raulino Reitz (no. 8681) in a bog at Fazenda Frei Rogerio, 12 km. southeast of Pôrto União, altitude about 750 m., municipality of Pôrto União, Santa Catarina, Brazil, on December 18, 1956, and is deposited in the United States National Herbarium at Washington.

SYNGONANTHUS TRICHOPHYLLUS Moldenke, sp. nov.

Herba parva; caulibus dense foliosis; foliis filiformibus utrinque glabris membranaceis; pedunculis erectis filiformibus stramineis 2-costatis 2-sulcatis glabris nitidis; vaginis appressis olivaceis glabris striatis; capitulis obconicis flavidis vel albidis ca. 3 mm. latis.

Dwarf herb; stems to 3 cm. long, densely foliose; leaves filiform, 1--2.5 cm. long, uniformly bright-green on both surfaces, glabrous on both surfaces, blunt at the apex, membranous; peduncles solitary at the apex of the stem, erect, filiform, 4--5 cm. long, stramineous, 2-costate, 2-sulcate, glabrous, shiny; sheath appressed, about 1 cm. long, olivaceous, glabrous, striate, the blade lanceolate, acute at the apex, erect, not ciliate; heads obconic, yellow or whitish, about 3 mm. wide; receptacle long-conic, about 2 mm. long, more or less whitish-pilose, bearing plainly visible scars where florets have been shed; staminate florets not seen; pistillate florets: sepals 3, separate, hyaline, about 1.75 mm. long and 0.5 mm. wide, obtuse at the apex, glabrous throughout; petals 3, spatulate, connate at the middle, hyaline, about 1 mm. long and 0.25 mm. wide, obtuse at the apex, glabrous throughout; style about 0.5 mm. long, glabrous; stigmas 3; ovary about 0.35 mm. long, glabrous, 3-celled.

The type of this distinct species was collected by Hernando García y Barriga and Richard Evans Schultes (no. 14138) in rocky soil mixed with white sand, Sabana de la Angostura, altitude 400 meters, Araracuara, Río Caquetá, Amazonas, Colombia, on December 21, 1951, and is deposited in my personal herbarium at Yonkers, New York. Unfortunately, only very old and shattered heads were available for dissection, with no staminate florets remaining. The very distinctive conic receptacle bears numerous hyaline structures which may be receptacular bractlets or

sepals. Younger and better preserved material is needed to settle the floral characters of this plant more completely.

xVERBENA FECUNDA Moldenke, nom. nov.

This name is hereby proposed for the fertile hybrids described by Dermen in Cytologia 7: 168 (1936) between Verbena canadensis (L.) Britton [including V. canadensis var. atroviolacea Hort. and V. canadensis var. compacta Hort.] and V. ambrosifolia var. eglandulosa Perry.

xVERBENA FERAX Moldenke, nom. nov.

This name is hereby proposed for the fertile hybrids described by Dermen in Cytologia 7: 168 (1936) between Verbena canadensis (L.) Britton [including V. canadensis var. atroviolacea Hort. and V. canadensis var. compacta Hort.] and V. racemosa Eggert.

xVERBENA GOODMANI Moldenke, hybr. nov.

Planta hybrida naturalis inter Verbena stricta Vent. et V. halei Small aspectu intermedia; foliis incisus lobatisque subtus dense canescenti-pubescentibus; caulibus ramisque pedunculisque rhachidibusque calicibusque dense canescenti-pubescentibus.

This is a natural hybrid between Verbena stricta Vent. and V. halei Small, with intermediate characters. The leaves are variously incised and lobed as in V. halei, but are densely canescent-pubescent beneath and to 7 cm. long and 4.5 cm. wide. The stems and branches are densely canescent-pubescent, as are also the peduncles, rachids, and calyxes. The spikes are very numerous and very slender, to 30 cm. long, with overlapping calyxes, very sparsely fruited.

The type of this hybrid was collected by my good friend and colleague, George Jones Goodman (no. 6474) -- in whose honor it is named -- along a roadside 3 miles north of Willis, Marshall County, Oklahoma, on June 28, 1957, and is deposited in my personal herbarium at Yonkers, New York. The collector notes that the hybrid is infrequent among the two parents.

VERBENA HASSLERANA var. OVATIFOLIA Moldenke, var. nov.

Haec varietas a forma typica speciei recedit foliorum laminais multo parvioribus ovatis et petiolis filiformibus 4-5 mm. longis.

This variety differs from the typical form of the species in having its leaf-blades much smaller, ovate, 1.8-3.3 cm. long, 0.6-2 cm. wide, and the filiform petioles only 4-5 mm. long.

The type of the variety was collected by Lyman Bradford Smith and R. Klein (no. 8478) in ruderal situations at Rio Negrinho, munivipality of Rio Negrinho, Santa Catarina, Brazil, on December 8, 1956, and is deposited in my personal herbarium at Yonkers, New York.

VERBENA PARANENSIS Moldenke, sp. nov.

Herba; caulibus ramisque dense hirsutis; foliis rotundo-ovatis, ad basin subcuneatis, utrinque dense villosis margine regulariter dentatis, venis supra impressis; inflorescentiis terminalibus subcapitatis multifloris; pedunculis gracilibus dense hirsutis; corolla parva violacea.

Herb; stem apparently procumbent or decumbent and rooting, tetragonal, densely hirsute with fulvous-brown hairs; branches tetragonal, densely hirsute with fulvous-brown hairs; principal internodes 1--7 cm. long, elongated on the side branches; leaves decussate-opposite; petioles 1--3 mm. long, obscure, very densely hirsute like the branches; leaf-blades chartaceous rounded-ovate, somewhat lighter beneath, 1--2.3 cm. long, 8--25 mm. wide, rounded in outline at the apex, more or less subcuneate or acute at the base, coarsely but regularly dentate along the margins with acute or subacute teeth, densely villous on both surfaces with long, brownish, more or less appressed hairs, the pubescence somewhat more grayish beneath; midrib very slender, impressed above, prominulous beneath; secondaries slender, 3--5 per side, ascending, hardly arcuate, impressed above, prominulous beneath; veinlet reticulation sparse, obscure on both surfaces; inflorescence terminal, subcapitate, densely villosulous throughout, many-flowered, the heads about 1.5 cm. long and wide; peduncles very slender, 1.5--3 cm. long, densely hirsutulous with fulvous-brown hairs; calyx tubular, straight, about 3 mm. long, densely villosulous or hirsutulous externally, its rim 5-toothed, the teeth about 0.7 mm. long; corolla hypocrateriform, violet, its tube about 5 mm. long, densely barbato-tomentose in the throat, the limb 5-parted, about 2.5--3 mm. wide, the lobes obovate; stamens 4, included, didynamous, 2 inserted at about the middle and the other 2 above the middle of the corolla-tube; style glabrous, about 4 mm. long, included; stigma 2-lobed, only one lobe papillose.

The type of this remarkable species was collected by my good friend, Gert Hatschbach (no. 4214) in the campo along the road to Palmeirinha, municipality of Guarapuava, Paraná, Brazil, on November 15, 1957, and is deposited in my personal herbarium at Yonkers, New York. The species is very distinct because of its capitate inflorescences and very small flowers.

VERBENA RIGIDA var. GLANDULIFERA Moldenke, var. nov.

Haec varietas a forma typica speciei recedit inflorescentiis dense glanduloso-puberulis.

This variety differs from the typical form of the species in having the peduncles, rachis, bractlets, and calyxes densely glandular-puberulent and the bractlets only very shortly and sparsely ciliolate.

The type of this variety was collected by Gert Hatschbach (no. 4212) along the roadside at Laranjeiras do Sul, municipality of Guarapuava, Paraná, Brazil, on November 15, 1957, and is deposited in my personal herbarium at Yonkers, New York.

VITEEX SPRUCEI var. VAUPESENSIS Moldenke, var. nov.

Haec varietas a forma typica speciei foliis trifoliolatis differt.

This variety differs from the typical form of the species in having its leaflets uniformly three in number.

The type of this variety was collected by Bassett Maguire, John J. Wurdack, and W. M. Keith (no. 41839) in a small savanna 0.5--1.5 km. north of Puerto Colombia, on the Río Guainia opposite to Maroa, Vaupés, Colombia, at an elevation of 130 meters, on October 12, 1947, and is deposited in the Britton Herbarium at the New York Botanical Garden. The collectors describe the plant as a tree 3--8 meters tall, the corollas white, the lip with a basal yellow spot, and state that it is frequent in the type locality.

MATERIALS TOWARD A MONOGRAPH OF THE GENUS CITHAREXYLUM. III

Harold N. Moldenke

CITHAREXYLUM DENTATUM D. Don

Additional literature: Briq. in Engl. & Prantl, Nat. Pflanzenfam. 4 (3a): 159. 1894; Moldenke, Geogr. Distrib. Avicenn. 23. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 34 & 88. 1942; Moldenke, Alph. List Cit. 1: 251 & 325 (1946), 2: 328, 338, & 427 (1948), 3: 690, 801, 802, & 880 (1949), and 4: 1065, 1112, & 1113. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 71 & 179. 1949.

Unarmed shrub or tree, to 5 m. tall, much branched; branches and branchlets medium-slender, stiff, dark-brown, obtusely or more or less acutely tetragonal, minutely puberulent with dark hairs or scurf or glabrate; twigs more slender, dark, more acutely tetragonal, minutely puberulent; nodes rather obscurely annulate; principal internodes 0.7--3.5 cm. long; leaf-scars large, borne on large, stout, ascending, corky sterigmata 1--2.5 mm. long; leaves very numerous, crowded, decussate-opposite; petioles stout, 1--10 mm. long, minutely puberulent or glabrate, corky (especially at the base); leaf-blades very stiff-coriaceous and rigid, dark-green, usually brunneous or nigrescent on both surfaces in drying, very shiny and glossy above, usually oblong or obovate-oblong (or the largest ones subobovate-elliptic to elliptic), 1.1--3.1 cm. long, 7--19 mm. wide, obtusely rounded or acute at the apex, cuneately narrowed to the base, not glanduliferous, subentire or (usually) more or less sharply and rather irregularly serrate toward the apex or to below the middle, usually more or less revolute along the margins when dry, glabrate and more or less densely punctate and scabrid on both surfaces; midrib slender, plane above, prominent beneath; secondaries slender, 4--6 pairs, short, ascending, usually not much arcuate, prominulous be-